

CLAIMS: (US)

1. A graphitized carbon fiber made from a mesophase pitch, wherein the fiber is obtained by spinning,  
5 infusibilizing, carbonizing, and pulverizing the mesophase pitch before graphitizing.

2. A thermally conductive polymer composition comprising:  
a polymer matrix;  
10 graphitized carbon fibers as a thermally conductive filler, wherein the fibers are obtained by spinning, infusibilizing and carbonizing the mesophase pitch before pulverizing.

3. The composition in accordance with claim 2, wherein the graphitized carbon fibers have a diameter of 5-20 $\mu$ m.

4. The composition in accordance with claim 2, wherein the graphitized carbon fibers have an average particle  
20 size of 10-500 $\mu$ m.

5. The composition in accordance with claim 2, wherein the graphitized carbon fibers have a density of 2.20-  
2.26g/cm<sup>3</sup>.

6. The composition in accordance with claim 2, wherein the graphitized carbon fibers have a diameter of 5-20 $\mu$ m, an average particle size of 10-500 $\mu$ m, and a density of  
2.20-2.26g/cm<sup>3</sup>.

7. The composition in accordance with claim 2, wherein the polymer matrix is selected from the group consisting of thermoplastic resin, thermoplastic elastomer, and thermosetting resin, and vulcanized rubber.

8. The composition in accordance with claim 2, wherein the carbonization is conducted substantially at 500-900 degrees C in an inert gas.

5 9. The composition in accordance with claim 6, wherein the carbonization is conducted substantially at 500-900 degrees C in an inert gas.

10 10. The composition in accordance with claim 2 further comprising a thermally conductive filler that is electrically insulative.

15 11. The composition in accordance with claim 10, wherein the thermally conductive filler is selected from the group consisting of aluminum oxide, magnesium oxide, boron nitride, aluminum nitride, silicon nitride, silicon carbide and aluminum hydroxide.

20 12. The composition in accordance with claim 2, wherein the composition is grease.

13. The composition in accordance with claim 2, wherein the composition is an adhesive.

25 14. A thermally conductive molded article made by molding a thermally conductive polymer composition into a predetermined shape, the composition comprising:

a polymer matrix;

30 graphitized carbon fibers as a thermally conductive filler, wherein the fibers are obtained by spinning, infusibilizing and carbonizing the mesophase pitch before pulverizing.

35 15. The molded article in accordance with claim 14, wherein the molded article is a sheet.

16. The molded article in accordance with claim 14,  
wherein the molded article is a housing.

5 17. A method for producing graphitized carbon fibers  
comprising:  
    spinning a mesophase pitch into spun fibers;  
    infusibilizing the spun fibers to form infusibilized  
fibers;  
10 carbonizing the infusibilized fibers to form  
carbonized fibers;  
    pulverizing the carbonized fibers to form pulverized  
fibers; and  
    graphatizing the pulverized fibers to form  
15 graphitized carbon fibers.

18. The method in accordance with claim 17, wherein the  
carbonization is conducted substantially at 500-900  
degrees C in an inert gas.